CLOSE UP GLIMPSES OF THE GREAT ACTOR-MANAGERS

One Who Has Often "Played Horatio to Their Hamlet" Tells What Manner of Men They Were Both On and Off the Stage

Wyndham's Measure of Success, Barrett's Love of Praise, Sir Henry Irving's Greatness in Many Things and Tree's Abstraction and Love of Epigram

By PERCY BURTON,
General Manager for Sir Herbert Tree.

THE American public, like the English, is apt to rate the personality of the actor higher than his art. Just how reprehensible or laudable an attitude this may be it is not for me to say. But this interest on the part of the public being an indisputable fact, perhaps a few personal reminiscences may not be considered out of place.

Having been associated at different times with some of the greatest actors of their generation, including Sir Henry Irving, Sir John Hare, Sir Charles Wyndham, Wilson Barrett, Sir Joonston Forbes-Robertson, and more recently Sir Herbert Tree, I have had the privilege of sometimes playing *Horatio* to their *Hamlet*, so to speak.

My first engagement was with Sir Charles Wyndham, most fascinating and mercurial of actors, and, in association with Miss Mary Moore, most careful and economical of managers. Wyndham's interests in the theatre have been those of a man of business rather than of an artist, and he has more than once told me that he measures success by the money it brings. Yet Wyndham's interests, unlike those of some of his contemporaries, extend beyond his calling, and as an after dinner speaker he cannot be excelled. To hear him apparently extemporize one would never imagine that his speeches and effects had been most carefully prepared and studied, ready in repartee, versatile and witty though he assuredly is.

The occasion when that fine old actor William Farren, in playing *Ingot* to Wyndham's *Garrick*, by mistake greeted the latter with the remark, "Mr. Wyndham, sir, you are drunk," must have irresistibly recalled a reminiscence of one of Wyndham's first appearances on the New York stage after his experiences as a brigade surgeon in the civil war. He had a long and somewhat tiresome speech to deliver, which dealt with his undying love for a certain young lady. The speech started, "Drunk with enthusiasm, I——" but after the first words his memory forsook him, and having stammered out the startling confession that he was "drunk" Wyndham found himself at the mercy of an audience only too ready to find mirth where it is unconsciously inspired.

My next engagement was as assistant manager and press agent to Wilson Barrett. I was rather nervous on my first introduction to him, especially as I only considered my engagement a makeshift, nor did Barrett's first words improve matters: "Are you going to stick to me?" he asked peremptorily, and there was a palpable pause before I could stammer out what can only be described as "handling the truth rather carelessly," "I hope so, Mr. Barrett." Still, I did stay with him until his death, two years later, and always found him to be a very lovable and generous man. He was the strangest contrast to Wyndham.

Unlike the former, Barrett had little, very little, sense of humor; he could never have written some of his plays, much less have made many of his speeches, if he had. Once I remember when he was playing to a rather depressing audience I indulged in a little well meant enthusiasm at the close and shouted "Speech!" from far back in the house. Barrett, ignorant of the fact that his employee was the chief enthusiast, came forward and said very seriously, "Ladies and gentlemen, you ask for a speech," which he proceeded to give with great zest on his favorite political topic at the time, "Chinese labor in South Africa."

Wilson Barrett had a great heart and a generous nature. His popularity with the people in the broader sense of the word probably exceeded that of Sir Henry Irving even, at all events in the English provinces. Barrett was a good business man and knew the value of publicity. He knew his public too.

I remember a characteristic little incident that occurred just before Barrett's last appearance at Liverpool. He called me into his room and said: "I suppose you know that So-and-So has booked Sir Henry Irving in opposition to me at Liverpool. I wish you would go down there at once and do what you can in my behalf. Spend what you like, of course. Money's no object."

I went and did what I could, and as luck would have it this engagement turned out a triumph for Wilson Barrett, the one week, owing to the general demand, being extended to another and then to a third week, while Irving went on to Manchester and announced his forthcoming retirement. During the first and only week Irving was against Barrett they had an opportunity of renewing their friendship, which had been strained for some time, and one night Barrett came down to the theatre very proud of the fact that they had been sitting talking together till 5 in the morning.

Toward the end of this visit to Liverpool, the last engagement he ever played, Barrett ran through all his repertoire and at the end put up a scratch production he had written and was anxious to try entitled "Lucky Durham." He asked me to watch the performance and the effect it created very carefully and give to him my opinion after each act. The first, although rather crude, went with considerable eclat, for Barrett was a favorite, and the curtain fell to be raised again and again to rounds of applause in which I am not ashamed to say I took part. Going behind the scenes when the enthusiasm had abated I met the happy author actor. With a glow of honest pride shining through his makeup he said:

"What do you think of it?" in a tone that admitted no criticism, which was to Barrett like a red rag to a bull.

"Excellent," I replied.

"What, only excellent?" he retorted with a shrug of disappointment as he turned to his fellow actors for their more eloquent appreciation or flattery.

Having satisfied himself of the success of this child of his brain Barrett sent me to London to secure a theatre for the fall season, and in my quest I went to Sir Charles Wyndham. He to my surprise and Barrett's subsequent indignation said he had read the reports and that the play bore a marked resemblance to one he had produced a score of years before. He gave me a manuscript of the latter to read, but I personally failed to find any striking likeness between the two works. Wyndham stuck to his guns, however, and the incident might have led to some legal trouble, but Barrett died after a severe operation before the production of his own play in London.

Whatever his limitations as an artist and actor, Barrett was a good and great man. I shall never forget the simple hearted but sincere way in which he was mourned by thousands of his fellow countrymen.

After Wilson Barrett's death I received a wire from Sir Henry Irving, who was then at Tintagel, in Cornwall, and shortly afterward was engaged all the year round by him, remaining with him until his death. Personally Irving had been very fond of Barrett in spite of the latter's attempt in years gone by to rival him in London, and on my meeting with Irving at Drury Lane, where he was rehearsing prior to the start of his first farewell tour, he asked me to tell him about Barrett's death.

"Ha!" he said in his emphatic way, "they murdered him, they murdered him!"

Irving had a greatness apart from his own calling. It was the greatness of character and will, allied to a magnetic personality, which every really popular actor must possess. But Irving's was predominant in every way.

Like most great actors, Irving would probably have won fame in many other walks of life, particularly, perhaps, as a diplomatist. One could picture him not only in the robes but with the indomitable spirit of a Machiavelli, a Richelieu or a Disraeli, to whom, by the way, he bore a marked resemblance. His wit was of an almost Voltairean character. I cannot forget a criticism he made of an interview I had written in order to save him trouble. At the close of the column, as I was hard up for copy, I referred to the possible alliance between church and stage, a subject inspired, to me, by my association with Wilson Barrett. After reading the interview Irving laid down the paper and said in his peculiarly meditative way:

"Very good, my boy, very good; but I should leave the church alone if I were you. She's quite old enough to look after herself!"

Irving's wit was often of a very caustic and biting nature. He once sent some volumes of Furness's "Variorum" to a young and well known actor-manager who was about to produce the play "Hamlet" for the first time and who had been anxious to enlist Irving's sympathetic advice. The would-be *Hamlet* had confessed to Irving in reply to the latter's inquiry that he had not read the authority in question, and Sir Henry in describing the incident to me afterward remarked that it would take him some years to get through the work, while the fact that the younger actor did not realize the subtle sarcasm of the gift and duly paragraphed Irving's interest in his welfare only tickled Irving all the more.

On another occasion I had received a friendly letter from an actor-manager who had expressed his pleasure at hearing of the great success of Irving's season at Drury Lane and asked me to convey his kind remembrances to his "old colleague." I did so while Sir Henry was in his dressing room making up, and he asked me to read the letter, as it was not a private one. The message evidently stuck in Irving's throat a bit, for throughout my reading of the remainder of the letter and for some moments after he kept repeating in his terse and characteristic way:

"Old colleague, eh? Very nice indeed! Old colleague, eh? Very nice indeed!"

At another time I was present in his dressing room at Drury Lane at a conversation regarding a change of programme in which Arthur Collins of Drury Lane, Bram Stoker and Mr. Loveday took part. The matter being settled, the others went out first and Irving lagged a little behind, for he was meditatively deliberate even in his walk. Seeing Hall Caine, who was waiting at the opposite side of the stage to see Mr. Collins, probably in connection with the then forthcoming production of "The Prodigal Son," Irving said:

"Ah, there's old Shakespeare over there! I suppose I must go and chat with him."

Irving on the stage and at rehearsal was inclined to be something of a tyrant. On Miss Edith Wynne Matthison's first appearance with him as *Portia* in "The Merchant of Venice" she was naturally very nervous and in the trial scene held the deed upside down. Irving with his infinite regard for detail soon noticed this and pointed it out to her thus:

"Is it so nominated" ["you've got the bond upside down, my dear; the red seal should come at the bottom"] "in the bond?" interpolating his aside *sotto voce* into *Shylock's* speech.

In speaking of acting he said to her: "Yes, it is a difficult art, but we shouldn't love it if it weren't so difficult, should we?"

One night I was sitting in the stalls at Drury Lane when the tent scene in "Becket" was being played, and Irving, with his back to the audience, had given the stage to the actor who was portraying the French king with a wealth of elocutionary vigor.

"That's right, my boy," said Irving in a voice I could hear well in the stalls, "let 'em have it, let 'em have it!"

To one who had the honor of working for Irving and the pride of being in personal touch with him through the closing scenes of his life it is difficult to speak dispassionately of so remarkable a personality and so sympathetic a man. It was necessary to see and study Irving in private to understand and appreciate his real character, and to have known and worked for him will ever be an inspiration.

Among other actor-managers with whom I have been in personal contact since Irving's death have been Sir George Alexander and Sir Herbert Tree, the former a very keen man of business, and the latter a dreamer and artist first and a practical politician afterward. In face, indeed, Tree strikingly resembles Asquith, and also in his platform manner. Sir Herbert Tree is the most indefatigable actor-manager I have ever known. He is always amusing, epigrammatic, and delightedly indiscreet.

"I hate people with tact," he has said to me more than once; "people pretending to be something else than what they really are."

His abstraction is proverbial. He has a very ready and pretty wit. Once he was endeavoring to get a well known actor and popular manager back to his fold (the late Lewis Waller, with whom I had gone into partnership to produce "Gamblers All" in New York just before his death) and received him in his dressing room as he was making up for the stage.

"How much would you want to come back to me?" inquired Tree as he fondled the grease paint and passed it lightly over his sphinxlike face. Waller named an exorbitant figure, to which Tree merely replied as he went on making up:

"Don't bang the door as you go out, will you?"

The comedian G P Huntley told me the story of a young actor who approached Tree for his advice with a view to making a hit in a very small part allotted to him and told the actor-manager that he proposed to make the character up as a man of 41.

"No," replied Tree meditatively; "if I were you I think I should make him up as 42."

To some one in New York not long ago he said: "I am so prodigal in my amiabilities, I think you had better see my lawyer."

Miss Constance Collier, who is appearing as one of the Merry Wives of Windsor at the New Amsterdam, has told me many amusing tales of Tree. At one time when rehearsing "The Eternal City," by Hall Caine, the author was anxious to get a particularly striking and even violent effect in the scene between the hero and the heroine when the former found that the latter had been unfaithful to him, and proposed that Robert Taber should throw Miss Collier bodily over his shoulder.

"That reminds me, Caine," said Tree solemnly, "of a scene I once saw in which the hero caught hold of the heroine and banged her head on the floor."

"Fine!" said Hall Caine. "What play was it?"

"Punch and Judy, I think it was," said Tree as he calmly proceeded with the rehearsal.

After "The Eternal City" had been running a long time Tree, who played the part of *Baron Bonelli*, one night made his appearance at each one with a portmanteau which he deposited in a corner and at every exit took it away with him, to the amusement of the other actors in the scene.

At another time when playing *Fagin* in "Oliver Twist" Tree appeared in the usual rags except for his feet, which were shod in spotless patent leather boots, which he explained were quite in keeping with the character of *Fagin*, as he had stolen them.

Here is an illustration of Tree's absent mindedness. One day in London he took a cab and gave the driver the address to go to. Throughout the journey he was reading letters and when the house was reached alighted, still reading, and knocked at the door. The servant who opened it was startled by the inquiry, "Well, what do you want?" And, disturbed in his reverie, Sir Herbert said to the still amazed servant, "Come in, come in," as he walked back to the cab and drove away.

Another day Sir Herbert was watching a reahearsal at His Majesty's Theatre and sitting in the orchestra impatiently regarding the unsuccessful efforts of two of his leading actors. At last he got up in despair. His stage manager awaited with anxiety Sir Herbert's appearance behind the scenes, but reached the stage door only in time to see Tree make his exit from the theatre and hail a taxi and to hear him say, "Drive me to the Garrick Club."

It is interesting to recall how Tree came to hear Haddon Chambers's famous first play, "Captain Swift," twenty-eight years ago. Chambers, having heard that the actor manager was always ready to give a hearing to new writers and finding that no one else was likely to produce his work, hung around Tree's theatre worrying him to read his play. At last he grew desperate and one day pursued the actor into a Turkish bath and insisted upon reading the manuscript to his prisoner. By the time he was ready to go Tree had become interested and invited the young Australian home to finish reading the play, which he subsequently produced with enormous success. The youth of the writer amazed the public, who hardly credited him with his 22 years when he came before the curtain to receive his applause.

Like all prominent actors, and especially actor-managers, Sir Herbert Tree is the recipient of many strange letters. One of these read:

"VENERED SIR: I wish to go on the stage, and would like to join your valuable theatre. I have been a bricklayer for five years, but having failed in this branch I have decided to take on acting, it being easier work. I am not young, but I am six feet tall without my boots. I have studied Ralls system of Ellacution, and I am fond of reading."

Another ran:

"DEAR MR. TREE: I hear you want dark people for your 'Antony and Cleopatra.' I should like to come to you. I am a Mohammedan. I have great dramatic talent. Yours truly,

"SARDONAPALUS.

"P S—I can lift any grand piano with my teeth."

Going back some years, I might say that on Irving's death I rejoined my old chief, Sir Charles Wyndham. I had prophesied his knighthood six months before it happened in an article for a daily paper on the subject of "Should Actors be Knighted?" with the second headline "Sir Charles Wyndham a Coronation Probability." The humor of the idea evidently appealed to Sir Charles, for on my showing him the proof he asked, "Can't you make it a lord?"

I next joined Sir John Hare (he was then plain "Mr.") as his general manager for his farewell tour of the English provinces and last performances of certain plays in London. Thus commenced one of the most delightful of all my engagements, so thoughtful and appreciative was Sir John. Never shall I forget his consternation when as he was escaping from some depressing town in the Midlands one Sunday morning a seedy looking inhabitant came up to him, put out his hand and said, "England is proud of you, sir!" thus constituting himself the self-appointed deputy of a nation to the confusion of Sir John at the time, but his subsequent amusement.

Nor was I less impressed by the remark made to me by a grateful waiter to whom I had given a pass to see Sir John in one of his finely contrasted characters. Going back at night to his hotel after looking long and furtively at the dapper little gentleman he had served with supper, who presented a striking contrast to his appearance as *Feeles*, *Goldfinch* or *Quex*, the almost hypnotized waiter said: "'E do disguise 'isself, doan't 'e?"

Perhaps, however, the two finest tributes paid to Sir John Hare were those of a colleague of his and the late King Edward. It was George Alexander who very happily described him in a little speech before the curtain of a theatre to which he was coming as "not only a great actor but a great gentleman," while King Edward when Sir John's name was mentioned at a certain dinner party said, referring to him, "My favorite actor both on and off the stage." Nor can I forget his Majesty's hearty greeting to Hare on the night of the King's last birthday but one at Sandringham after Hare had been playing "A Quiet Rubber" before the royal family party. On the King thanking him subsequently Sir John availed himself of the opportunity of thanking his Majesty too for the title just bestowed upon him. I was only a few yards away, and a week later was an observer of the more formal performance of "A Pair of Spectacles" at Windsor Castle in honor of the Kaiser.

Owing to Sir John Hare's virtual or provisional retirement he recommended my reengagement by Sir Johnston Forbes-Robertson, whom I rejoined some seven or eight years ago and with whom I remained as general manager until the end of his recent farewell performances in this country. Sir Johnston is a great actor—perhaps prone to underrate the importance and the necessity of keeping his name before the public, which after all, is a comparative virtue these days. But Forbes-Robertson is one to whom his art is of paramount importance and to whom the English, and especially, perhaps, the American, stage and playgoer have looked to carry on the serious art of acting.

As to Sir Herbert Tree's preeminent position to-day on the English speaking stage it is not for me, as his manager, to express an opinion at this time. But perhaps I may with due modesty, to save his own inevitable blushes, suggest that Tree has much of the brilliant versatility of David Garrick—without the ambition to write his own criticisms as the latter is said to have done. And Tree among other innumerable epigrams is responsible for the immortalism that "genius is an infinite capacity for taking other people's pains."

SIR HERBERT TREE as SHYLOCK

SIR CHARLES WYNDHAM

SIR JOHN HARE

SIR HENRY IRVING as SHYLOCK

FORBES ROBERTSON as SHYLOCK

KNOWS THE SECRET ABIF TOLD TO KING SOLOMON

ONE of Solomon's master builders in the flesh again—so one might call Samuel R. Dawson, because he believes himself to be the rediscoverer after thousands of years of the lost art of making bronze capable of holding a cutting edge and able to do the work of hardened steel.

Many centuries ago man fought and labored with implements of bronze before iron and steel found their place in the march of human progress. That the bronze of the distant past was not the comparatively soft metal of to-day, but a material that was able to stand rough usage and cleave its way through wood and stone has long been asserted. The modern metallurgist knows how often the secret of that supposed ancient alloy of copper and tin and a third unknown component is peeled in the technical arts.

When King Solomon had reached a certain stage in the building of the Temple at Jerusalem he wanted the help of metal workers, for his people knew little of that art. Therefore he sent to his neighbor, Hiram, King of Tyre, traditional descendant of Tubal Cain, the pioneer of workers in brass and iron. Brass in those days was not brass as it is understood now, but properly bronze. So King Hiram sent his master of craft, one Hiram Abif.

The Bible relates that, "he was a widow's son of the tribe of Naphtali, and his father was a man of Tyre, a worker in brass; and he was filled with wisdom and understanding, and cunning to work all works in brass." Masonry holds Hiram Abif as its founder and Masonic tradition has it that this master metal worker never returned to Tyre, but instead was murdered by jealous artisans in Solomon's service.

It seems that Solomon wanted Hiram Abif to teach one of his men how to fashion and to mix that wonderful bronze, so that he too should have a master of the craft in his own kingdom. News of this came to the ears of a lesser artisan, who also had aspirations. Therefore when the Temple was finished and the night before the man of Tyre was to return to his native city he was waylaid and murdered after refusing to divulge the secret of his cunning.

From that day on, the tradition is, no more of that wonderful material was made, but existing bronze implements, &c., were melted up and worked over from time to time that weapons might be fashioned for the fighting men. The warlike Joshua, who led the Israelites into the land of promise, captured and sacked many cities. His orders were first to take all brass (bronze) that could be found, then to appropriate all women of child bearing age, and next to garner what gold there was to be had. Joshua knew that without arms of bronze his armies would avail him little.

Samuel R. Dawson was born in Green county, Tennessee, on June 26, 1847. His people came from South Carolina, the Palmetto State, and, as he expresses it, "Luther Burbank and his followers would probably call me a palmetto bud on a hickory stem."

Curiously, Mr. Dawson comes of a metal working ancestry on both sides of the family, and his mother was a direct descendant of Ralph Hozge, who in 1543 cast the first iron cannon made in England. Two of those original pieces are still preserved in the Tower of London.

In the '90s Mr. Dawson had a foundry in Des Moines, Ia., and in July, 1893, he cast a number of brass spearheads for Cyrus W. Field 3d, who wanted them for the appointments of a lodge to which he belonged. In the course of ordinary routine the castings were made and delivered to Mr. Field, who was to bore out the holes for the supporting staffs. Mr. Dawson thus describes what followed:

"Cyrus had a funny way of stamping like an agitated chicken when he was mad, and the next day I saw him coming down the road literally prancing with indignation, and when he reached the shop he threw the spearheads at my feet, angrily exclaiming: 'What sort of stuff is that brass? I can't bore it, and it's broken my tools.'

"True enough, there was a drill stuck in the unfinished hole of one of the spearheads. I was surprised of course and finally pacified him by promising to make him a new set of spearheads and to cast the holes in them. I did not then realize that the brass was abnormal.

"After Cyrus was gone I picked up the spearhead with the broken drill in it, and finding no apparent reason for the difficulty knocked off a piece of the brass with a hammer, and then I saw that the metal had a bright crystalline fracture similar to that of steel and quite unlike ordinary composition. I knew then that I had hit upon the secret of the ancient bronze about which I had dreamed at intervals ever since the days of my boyhood.

"It was not properly an accident, because I had used experimental ingredients, but there were conditions that puzzled me nevertheless. After a deal of searching I finally located the cause of that peculiar hardness. My partner was sceptical when at last I told him of my find, and was ready to bet that I could not reproduce that anomalous mixture. I did it, just the same, but I did not tell him what was the transforming third component.

"I said my discovery was not properly an accident, and I don't believe it was. At that time there was on exhibition in Des Moines a remarkably well preserved female mummy and its mortuary casing upon which were traced, as was the ancient religious custom, hieroglyphics bearing knowledge which should be of use, according to the belief of the period, in the next reincarnation. The sight of that mummy and that script which I could not decipher made me think of Hiram Abif, recalled my youthful desire to know the secret of his bronze and spurred me on to experiment. I had already worked out a formula for a cool steel that possessed exceptional qualities and it was chance, but probably an inspired impulse, that led me to do what I did."

The commercial demands for tool steel of a superior sort were greater than those for hardened copper or bronze at the time. Accordingly, Mr. Dawson did little with his copper alloy for some years, believing that he had a larger field in the steel industry. But engineering requirements, just like human progress, move in cycles, and hardened bronze could be used in many ways with distinct advantage. Indeed in some of its uses it would be decidedly superior to steel.

A good deal of misunderstanding has prevailed regarding the nature of the bronze of the ancient masters like Hiram Abif. There have been references to tempered copper, but Mr. Dawson does not believe that anything of the kind has ever existed. He says:

"Hardened copper is not pure copper tempered. It is impossible to temper copper as one tempers steel. Prehistoric man did not do it, nor is it possible to effect it by any modern process.

"Just the same my copper alloy, which is physically identical with the best of ancient bronze, will take a keen edge and will hold it under some conditions where steel cannot do so. It is not a laboratory experiment, but a commercial product. While composed of copper and tin, still it has in it other elements which it has so far been impossible for the assayist to discover.

"None of the accepted methods of analytical chemistry will disclose the nature of the constituents that give my hardened copper its peculiar properties. And what is probably just as strange, the stuff can be remelted any number of times without parting with any of its distinctive characteristics. In other words once hardened copper it is always such. This explains why the ancients were able to make over the stuff again and again and still have either the implements of industry or the sharp edged weapons that they required."

It is a well known fact that a knife blade will grow dull in one's pocket even without use. This is because steel oxidizes and also takes on a wire edge which is easily blunted or destroyed. The suggestion is often made to give one's razor a rest so that the blade can recover its keenness. This keenness is really the result of crystallization which may or may not make the razor fit for use. Again a steel cutting tool will often tear, especially when called upon to sever delicate fabrics or to cut through certain substances.

The surgeon's knife is quickly ruined if his sterilizing fluid is strong, and yet the patient's safety may depend upon that antiseptic bath. Mr. Dawson's scalpels of hardened copper are said to take and hold an edge as keen as that of steel and yet they can be dipped in a saturated solution of bichloride of mercury without being injured in the slightest. A steel blade would be ruined if subjected to a sterilizing mixture of more than two parts of bichloride of mercury in a thousand parts of water.

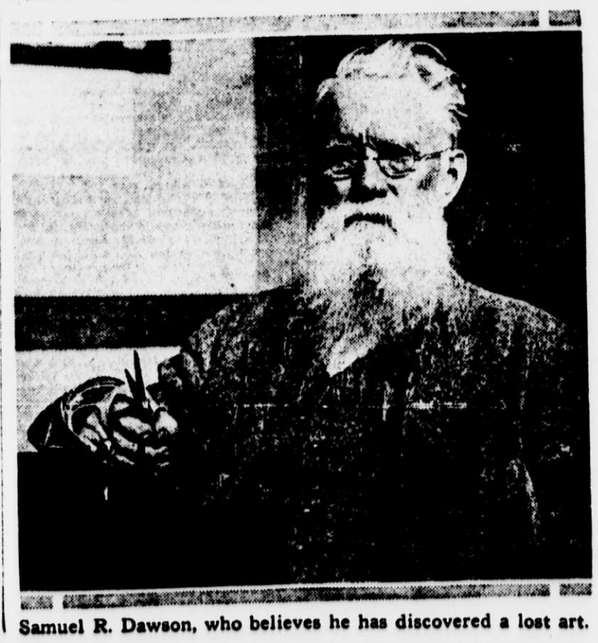
The microtome knife is used for cutting exquisitely thin sections of vegetable and animal matter for examination under the microscope. Nothing but the very sharpest and smoothest edge will do this work without pulling or mutilating the substance, and hardened copper succeeds where steel fails. To go to an extreme, trolley wheels made of hardened copper have given service several hundred per cent. longer than the ordinary commercial trolleys.

On certain high speed presses hardened copper has stood up to the work far better than the best steel available. Steel dies can be struck from "nubs" or formers made of hardened copper in which the pattern has been cast and not engraved or cut as is usually the case when fashioned of steel. The expensive work of the die cutter is done away with and the much cheaper labor of the foundryman substituted. Bearings for automobile crank shafts and the wearing surfaces of parts of locomotives have been made of this metal with gain in endurance and economy.

The steam turbine has revolutionized the problem of power generation where high pressure steam is employed, and yet the brass blades of turbines, of which each motor has many thousands, are destroyed in a comparatively short while by the action of the steam. It takes a long time to repair a damaged turbine, and each little blade has to be set in place and secured with great precision. It is this expense that largely offsets the gain otherwise obtained through efficient performance. Mr. Dawson is satisfied that blades of his duplication of ancient bronze would not be injured by the high pressure steam, and therefore would save the greater part of the outlay now involved in the repair of high powered turbines.

The publishing world has also reason to be interested. Half tone plates made of hardened copper will stand up under prolonged service and yet yield impressions of excellent definition. To the music loving public a boon is promised: needles of hardened copper give good interpretations of a talking machine's record. As one enthusiast has expressed it: "I could almost see the singer but his eyes, the reproduction was so faithful."

But hardened copper has more than the gift of endurance and the capacity to hold a cutting edge. The material in the molten state flows as freely as water, and because of this exceptional property can be employed in making the smallest and thinnest castings possible with a minimum of waste material. In the best of art, and here is found one of the reasons why Solomon sought the services of Hiram Abif, this kind of bronze is the ideal metal for the moulding of statuary, decorative fixtures and exquisite ornaments. Hardened copper is not protected by a patent.



Samuel R. Dawson, who believes he has discovered a lost art.